

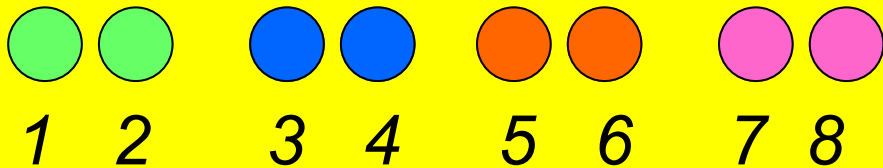
# Stage 2—3 Counting All

## Multiplication & Division

I can skip count  
forwards and backwards to 20  
in twos and fives.

I can solve simple multiplication  
and division problems by  
counting all the objects.

*e.g. 4 groups of 2...*



# Stage 4 Advanced Counting

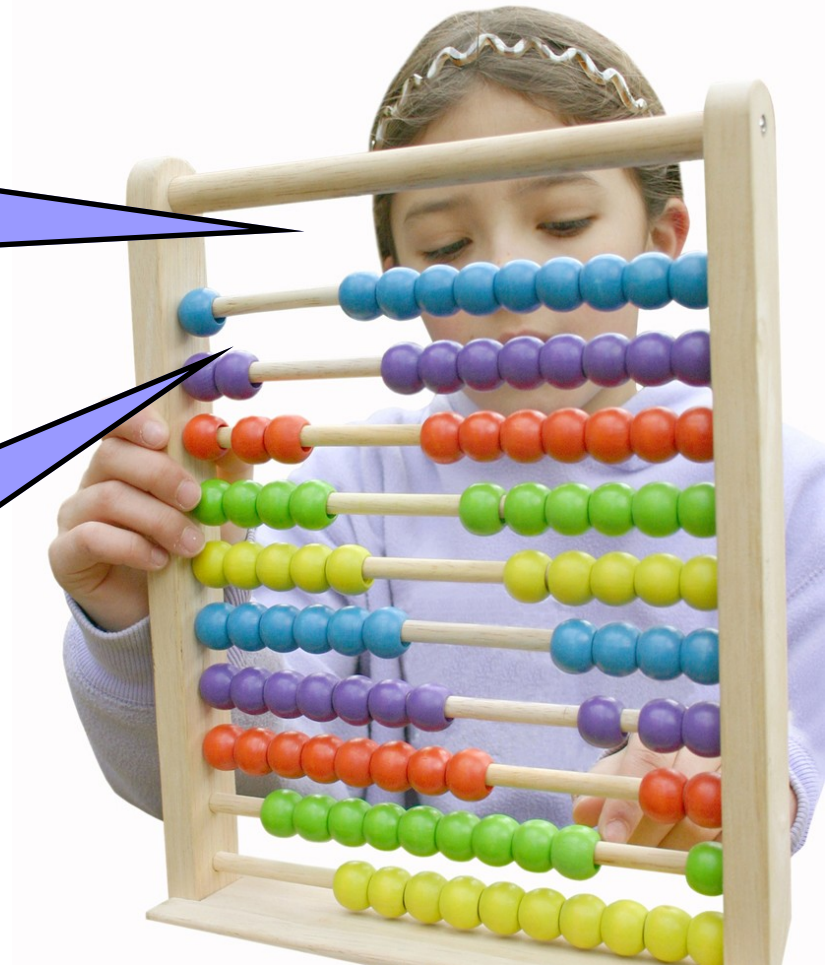
## Multiplication & Division

I can skip count forwards and backwards to 100 in twos, fives and tens.

I know doubles and matching halves to 20.

I can solve multiplication problems using skip counting.  
*e.g.  $4 \times 2$  as 2, 4, 6, 8*

I can solve division problems using: skip counting, fair sharing, using my doubles or halves to 20.



# Stage 5 Early Additive

## Multiplication & Division

I can solve multiplication and division problems using repeated addition or known addition facts.

$$\begin{aligned} \text{eg. } 4 \times 6 &= (6 + 6) + (6 + 6) \\ &= 12 + 12 \\ &= 24 \end{aligned}$$

I can solve multiplication and division problems using known simple multiplication facts or repeated halving.

$$\text{eg. } 20 \div 4 = \square$$

$$\begin{aligned} 1/2 \text{ of } 20 &= 10 \text{ and } 1/2 \text{ of } 10 = 5 \\ \text{so } 4 \times 5 &= 20 \end{aligned}$$

I know  $\times 2$ ,  $\times 5$  and  $\times 10$  multiplication facts and matching division facts.



# Stage 6 Advanced Additive

# Multiplication & Division

I can solve multiplication and division problems by using known facts and mental strategies to derive the answers.

Using known facts  
 $3 \times 6$  so  $2 \times 6 + 6 = 18$

Doubling  
 $4 \times 7$  as  $2 \times 7 = 14$   
so  $4 \times 7 = 28$

Halving  
 $36 \div 4$  as  $1/2$  of  $36 = 18$   
and  $1/2$  of  $18 = 9$



Place value  
 $13 \times 5 = (10 \times 5) + (3 \times 5) = 65$

Rounding and compensating  
 $3 \times 18 = 3 \times 20 - 6$

Doubling and halving  
 $4 \times 8 = 2 \times 16 = 32$

Reversibility  
 $63 \div 9$  as  $9 \times \square = 63$

I know multiplication facts to  
x10 tables and some  
matching division facts.

I know multiplication facts  
with tens, hundreds and  
thousands.



# Stage 7 Advanced Multiplicative

# Multiplication & Division

I can choose appropriately from a range of mental strategies to solve multiplication and division problems.

Possible strategies for  $24 \times 6$

Place value partitioning  
 $(20 \times 6) + (4 \times 6)$

Rounding and compensating  
 $25 \times 6 - 6$

Doubling and halving  
 $24 \times 6 = 12 \times 12$

Vertical Algorithm  
*I can explain the place value partitioning involved*

Possible strategies for  $201 \div 3$   
by using reversibility

Place value partitioning  
 $(3 \times 60) + (3 \times 7)$  so 67 cans

Rounding and compensating  
 $(3 \times 70) - (3 \times 3)$  so 67 cans

Divisibility  
33 threes in 100 with 1 left over  
so  $33 + 33 + 1 = 67$  cans

Vertical Algorithm  
*I can explain the place value partitioning involved*



I know factors of numbers to 100 including prime numbers.

I know square numbers to 100 and the responding square roots.

I know division facts up to x 10 tables.

I know common multiples of numbers to 10.

I know divisibility rules for 2, 3, 5, 9, 10

# Stage 8 Advanced Proportional

# Multiplication & Division

I can choose appropriately from a range of mental strategies to solve problems that involve multiplication of fractions and decimals.

For example;

$$3.6 \times 0.75 = \frac{3}{4} \times 3.6 = 2.7$$

(Conversion and commutativity)

I know simple powers of numbers to 10.

I know fractions—decimal—percentage conversions for given fractions and decimals.

Reference: Ministry of Education (2008). The Number Framework—Book 1

I can choose appropriately from a range of mental strategies to solve division problems with decimals.

For example;

$$7.2 \div 0.4 \text{ as } 7.2 \div 0.8 = 9, \\ \text{so } 7.2 \div 0.4 = 18$$

(Doubling and halving with place value)

I know divisibility rules for 2, 3, 4, 5, 6, 8, and 10.

I know least common multiples of numbers to 10.

I know common factors of numbers to 100, including the highest common factor.

